

24. From Eq. 7-32, we see that the “area” in the graph is equivalent to the work done. Finding that area (in terms of rectangular [length×width] and triangular [ $\frac{1}{2}$ base×height] areas) we obtain

$$\begin{aligned} W &= W_{0 < x < 2} + W_{2 < x < 4} + W_{4 < x < 6} + W_{6 < x < 8} \\ &= 20 + 10 + 0 - 5 = 25 \text{ J} . \end{aligned}$$